

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A signal transmission system ~~(1) having~~  
~~comprising:~~  
\_\_\_\_\_a signal source device ~~(2) that is arranged to generate for~~  
~~generating~~ a transmission signal, ~~having:~~  
5 \_\_\_\_\_a signal sink device ~~(4) that is arranged to process for~~  
~~processing~~ the transmission signal, ~~;~~ and ~~having~~  
\_\_\_\_\_transmission means ~~that are provided between and coupled~~  
~~to~~ the signal source device ~~(2) and the signal sink device (4),~~  
~~that can be coupled to the signal source device (2) and the signal~~  
10 ~~sink device (4) for the transmission of signals, and that are~~  
~~arranged to transmit~~ said transmission means transmitting a signal  
representing the transmission signal from the signal source device  
~~(2) to the signal sink device (4),~~ characterized in that the signal  
source device ~~(2) is arranged to emit~~ emits an optical signal ~~(S)~~  
15 ~~that represents the~~ representing the generated transmission signal  
generated, ~~in that the signal sink device (4) is arranged to~~  
~~receive~~ receives the optical signal ~~(S) emit~~ tablemitted by the  
signal source device ~~(2),~~ and in that the transmission means ~~are~~ is  
formed by light-guiding means ~~(7) that are able to be coupled~~  
20 optically coupled to the signal source device ~~(2) and the signal~~  
~~sink device (4) and that are arranged to transmit for transmitting~~  
the optical signal ~~(S) from the signal source device to the signal~~  
~~sink device.~~

2. (Currently Amended) ~~A The~~ signal transmission system (1) as claimed in claim 1, characterized in that, ~~at least one of the~~ signal source device (2) and the signal sink device (4), ~~at least one of the two said devices~~ is arranged at a distance from the light-guiding means (7) and is coupled to the light-guiding means (7) via an air-gap (10, 11).

3. (Currently Amended) ~~A The~~ signal transmission system (1) as claimed in claim 1, characterized in that the light-guiding means (7) ~~are~~ is of a multi-fiber form.

4. (Currently Amended) ~~A The~~ signal transmission system (1) as claimed in claim 1, characterized in that, ~~at least one of the~~ signal source device (2) and the signal sink device (4), ~~at least one of the two said devices~~ is arranged for fastening to a garment (15), and in that the light-guiding means (7) ~~are~~ is arranged for fastening to ~~a the~~ garment (15).

5. (Currently Amended) ~~A The~~ signal transmission system (1) as claimed in claim 4, characterized in that the light-guiding means (7) ~~have~~ comprises fastening means (18) for fastening ~~the light-guiding means~~ to ~~a the~~ garment (15).

6. (Currently Amended) ~~A The~~ signal transmission system (1) as claimed in claim 1, characterized in that, ~~at least one of the~~

signal source device (2) and the signal sink device (4), ~~at least one of the two said devices is arranged for fastening to a garment (15), and in that the light-guiding means (7) form a part of a the garment (15).~~

7. (Currently Amended) ~~A The~~ signal transmission system (1) as claimed in claim 1, characterized in that the light-guiding means ~~(7) have~~ comprises at least one light exit region (9) ~~arranged for optical coupling to the signal sink device (4), which said at least one light exit region (9) is arranged to emit~~ emitting the optical signal, said at least one light exit region having a (S) and is of light-scattering design and by means of which it is possible for ~~for scattering~~ the optical signal (S) ~~emerging from the light-guiding means (7) to be scattered into an area of space directed towards~~ the signal sink device (4).

8. (Currently Amended) ~~A The~~ signal transmission system (1) as claimed in claim 7, characterized in that at least one light exit region of the light-guiding means (7) are arranged to be is planar in form ~~in their light exit region (9).~~

9. (Currently Amended) ~~A The~~ signal transmission system (1) as claimed in claim 1, characterized in that the light-guiding means ~~(7) have~~ comprises at least one light entry region (8) ~~arranged for optical coupling to the signal source device (2), which said at least one light entry region (8) is arranged to receive~~ receiving

the optical signal ~~{S}~~ and ~~has and having~~ a light-collecting design, ~~and by means of which it is possible for enabling~~ the optical signal ~~{S}~~ entering the at least one light entry region ~~{8}~~ to be collected into the light-guiding means ~~{7}~~.

10. (Currently Amended) ~~A The~~ signal transmission system ~~{1}~~ as claimed in claim 9, characterized in that the at least one light entry region of the light-guiding means ~~{7}~~ ~~are arranged to be~~ is planar in form ~~in their light entry region {8}~~.

11. (Currently Amended) A garment ~~{15}~~ for a signal transmission system ~~{1}~~, characterized in that the garment ~~{15}~~ ~~has comprises~~ light-guiding means ~~{7}~~ ~~that are able to be coupled for~~ optically coupling to a signal source device ~~{2}~~ and a signal sink device ~~{4}~~ ~~and that are arranged to transmit, said light-guiding means transmitting~~ an optical signal ~~{S}~~ representing a transmission signal generated by the signal source device ~~{2}~~ to the signal sink device.

12. (Cancelled).

13. (Currently Amended) ~~A signal transmission~~The method as claimed in claim ~~12~~15, characterized in that the optical system ~~{S}~~ ~~is transmitted from the signal source device {2}~~ signal is optically coupled to the light-guiding means ~~{7}~~ light guide via a first air-gap ~~{10}~~.

14. (Currently Amended) ~~A signal transmission~~The method as claimed in claim ~~12~~<sup>15</sup>, characterized in that the optical signal ~~(6)~~ ~~is transmitted from the light guiding means (7) to the signal sink device (4)~~ is optically coupled to the light receiving means via a second air-gap ~~(11)~~.

15. (New) A method for transmitting a transmission signal from a signal source device to a signal sink device, the transmission signal being generated by the signal source device and processed by the signal sink device, said method comprising the steps of:

converting the transmission signal generated by the signal source device into an optical signal;

optically coupling the optical signal to a light entry region of a light guide;

transmitting the optical signal through the light guide from the light entry region to a light exit region;

optically coupling light receiving means to the light exit region of the light guide to receive the transmitted optical signal;

converting the received optical signal to a received transmission signal; and

applying the received transmission signal to the signal sink device for processing.

